## REMARKS

This is a full and timely response to the outstanding FINAL Office Action mailed October 5, 2007. The Examiner is thanked for the thorough examination of the present application. Upon entry of this response, claims 1-11 and 24-34 are pending in the present application. Claims 1-11 and 24-34 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by *Kim et al.* ("Low Complexity Rate-Distortion Optimal Macroblock Mode Selection and Motion Estimation for MPEG-Like Video Coders," hereinafter "*Kim*"). Claim 1-2, 11, 24-25, and 34 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by *Sethuraman* (U.S. Pat. No. 6,037,987). Finally, claims 3, 8-10, 26, and 31-33 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Sethuraman* in view of *Kim*. Applicants respectfully request consideration of the following remarks contained herein. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

### I. Response to Claim Rejections Under 35 U.S.C. § 102

It is axiomatic that "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983). Therefore, every claimed feature of the claimed invention must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. § 102.

Claims 1-11 and 24-34 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by *Kim*. Claim 1-2, 11, 24-25, and 34 stand rejected under 35 U.S.C.

§102(b) as allegedly being anticipated by *Sethuraman.* For at least the reasons set forth below, Applicants traverse these rejections.

***The Kim Reference***

In the Response to Arguments section, the Office Action states that the Applicants' arguments are not persuasive and continues to cite an article authored by the Applicants ("Low Complexity Rate-Distortion Optimal Macroblock Mode Selection and Motion Estimation for MPEG-Like Video Coders," hereinafter "the *Kim* article") to reject various claims of the present application under §102(b). Applicants respectfully disagree with the Examiner's position and request consideration of the following remarks.

In the Applicants' response filed on July 27, 2007, Applicants concurrently submitted a supplemental IDS, which disclosed a "later version" of the article at issue. As noted in the supplemental IDS, this later version was made publicly available (for the first time) at an IEEE ICME conference in July of 2003. With respect to the article at issue (*i.e.,* the *Kim* article disclosed in the IDS submitted concurrently with the application on November 12, 2003), Applicants submitted this reference to comply with its duty of disclosure. However, as the article was not made publicly available, Applicants maintain that it is improper for the Examiner to cite this article as a §102(b) reference as there is no date of publication. (Applicants point out that no publication date was disclosed with the article, and the Examiner acknowledges this.)

The Examiner, however, asserts that "*[s]ince, it is not known when the applied IDS was published and if [sic] when it became a public record, and without further proof, the examiner can not disqualify the above article*." (Emphasis added; Office Action,

pages 2-3). Applicants submit that it is improper for the Examiner to raise a presumption that the article pre-dates the current application and furthermore, to place the burden on the Applicants to prove otherwise. 35 U.S.C. §102(b) clearly recites:

> **A person shall be entitled** to a patent **unless** -
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or . . .

Furthermore, MPEP 2128 states the following:

> **A reference *is proven to be*** a "printed publication" ***"upon a satisfactory showing* that such document has been disseminated or otherwise made available** to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it." In re Wyer, 655 F.2d 221, 210 USPQ 790 (CCPA 1981) (quoting I.C.E. Corp. v. Armco Steel Corp., 250 F. Supp. 738, 743, 148 USPQ 537, 540 (SDNY 1966))

As such, Applicants respectfully maintain that the *Kim* article does not constitute prior art under §102(b), as alleged in the Office Action. Applicants respectfully request that the §102 rejection of claims 1-11 and 24-34 be withdrawn.

***Independent Claim 1 is Patentable Over Sethuraman***

Applicants respectfully submit that independent claim 1 patently defines over *Sethuraman* for at least the reason that *Sethuraman* fails to disclose, teach or suggest the features emphasized below in claim 1.

Claim 1, as amended, recites (emphasis added):

> 1. A video system comprising:
> a video processing circuit that receives a picture and provides video compression by using an optimal macroblock mode of operation, the optimal macroblock mode of operation being identified by processing at least one macroblock of the picture, the processing being performed independent of other macroblocks contained in the picture, wherein the video processing circuit includes an encoder, the encoder comprising:
> a motion estimation circuit that identifies an optimal motion vector by processing at least one macroblock contained in the picture, wherein the processing is carried out independent of other macroblocks contained in the picture; and
> ***a mode selection circuit that identifies the optimal macroblock mode of operation, wherein the mode selection circuit identifies the optimal macroblock mode of operation by using a rate-distortion model, where the rate-distortion model comprises an overall macroblock mode distortion D that is defined by a model equation D = $D^{AC}$ + $D^{DC}$, wherein $D^{AC}$ is a distortion due to AC coefficients and $D^{DC}$ is a distortion due to DC coefficients***.

In an effort to further prosecution, Applicants have amended claim 1 to further define the video processing circuit recited in claim 1. (Applicants have canceled claims 2 and 3.) Applicants have amended claim 1 to reflect that the video processing circuit includes an encoder which comprises a motion estimation circuit and a mode selection circuit. The mode selection circuit identifies an optimal macroblock mode of operation by using a rate-distortion model. The rate-distortion model comprises an overall macroblock mode distortion D that is defined by a model equation $D = D^{AC} + D^{DC}$,

wherein $D^{AC}$ is a distortion due to AC coefficients and $D^{DC}$ is a distortion due to DC coefficients. Applicants respectfully submit that the amendments render the rejection under the *Sethuraman* reference moot as the Examiner asserted the following in the Office Action mailed April 2, 2007:

> *"However, Sethuraman does not particularly disclose wherein the mode selection circuit identifies the optimal macroblock mode of operation by using a rate-distortion model, where the rate-distortion model comprises an overall macroblock mode distortion D that is defined by a model equation D = Dac + Ddc, wherein Dac is a distortion due to AC coefficients and Ddc is a distortion due to DC coefficients as specified in claim 3 . . ."*

(Office Action mailed April 2, 2007; page 5). Accordingly, Applicants respectfully submit that independent claim 1 patently defines over *Sethuraman* for at least the reason that the combination fails to disclose, teach or suggest the highlighted features in claim 1 above.

***Dependent Claims 5-11 are Patentable***

Applicants submit that dependent claims 5-11 are allowable for at least the reason that these claims depend from an allowable independent claim. *See, e.g., In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

Additionally and notwithstanding the foregoing reasons for the allowability of claim 1, these dependent claims recite further features/steps and/or combinations of features/steps, as apparent by examination of the claims themselves, that are patentably distinct from the prior art of record. Hence, there are other reasons why these dependent claims are allowable.

***Independent Claim 24 is Patentable Over Sethuraman***

Applicants respectfully submit that independent claim 24 patently defines over *Sethuraman* for at least the reason that *Sethuraman* fails to disclose, teach or suggest the features emphasized below in claim 24.

Claim 24, as amended, recites (emphasis added):

> 24. A video system comprising:
> means for receiving a picture and providing video compression by using an optimal macroblock mode of operation, the optimal macroblock mode of operation being identified by processing at least one macroblock of the picture, the processing being performed independent of other macroblocks contained in the picture, wherein the means for receiving a picture and providing video compression includes an encoder, the encoder comprising:
> means for identifying an optimal motion vector by processing at least one macroblock contained in the picture, wherein the processing is carried out independent of other macroblocks contained in the picture; and
> ***means for identifying the optimal macroblock mode of operation, wherein the means for identifying the optimal macroblock mode of operation identifies the optimal macroblock mode of operation by using a rate-distortion model, where the rate-distortion model comprises an overall macroblock mode distortion D that is defined by a model equation D = DAC + DDC, wherein DAC is a distortion due to AC coefficients and DDC is a distortion due to DC coefficients.***

In an effort to further prosecution, Applicants have also amended claim 24 to further define the video processing circuit recited in claim 24. (Applicants have canceled claims 25 and 26.) Applicants have amended claim 24 to reflect that the means for receiving a picture and providing video compression includes an encoder, which includes means for identifying an optimal motion vector and means for identifying the optimal macroblock mode of operation. The means for identifying the optimal macroblock mode of operation identifies an optimal macroblock mode of operation by

using a rate-distortion model. The rate-distortion model comprises an overall macroblock mode distortion D that is defined by a model equation $D = D^{AC} + D^{DC}$, wherein $D^{AC}$ is a distortion due to AC coefficients and $D^{DC}$ is a distortion due to DC coefficients. Applicants respectfully submit *Sethuraman* fails to teach these features. Accordingly, Applicants respectfully submit that independent claim 24 patently defines over *Sethuraman* for at least the reason that the combination fails to disclose, teach or suggest the highlighted features in claim 4 above.

***Dependent Claims 27-34 are Patentable***

Applicants submit that dependent claims 27-34 are allowable for at least the reason that these claims depend from an allowable independent claim. *See, e.g., In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

Additionally and notwithstanding the foregoing reasons for the allowability of claim 1, these dependent claims recite further features/steps and/or combinations of features/steps, as apparent by examination of the claims themselves, that are patentably distinct from the prior art of record. Hence, there are other reasons why these dependent claims are allowable.

## II. Response to Claim Rejections Under 35 U.S.C. § 103

Claims 3, 8-10, 26, and 31-33 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Sethuraman* in view of *Kim*. As discussed above, Applicants respectfully submit that the *Kim* reference is improperly cited as a §102(b) reference as it is improper for the Examiner to raise a presumption that the article

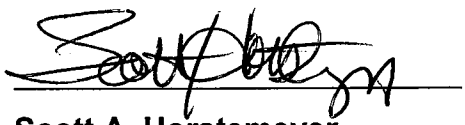
pre-dates the current application and furthermore, to place the burden on the Applicants to prove otherwise. As such, Applicants respectfully submit that the §103(a) rejection is improper and request that the rejection be withdrawn.

## CONCLUSION

Applicants respectfully submit that all pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephone conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,



**Scott A. Horstemeyer**
**Registration No. 34,183**

**THOMAS, KAYDEN, HORSTEMEYER & RISLEY, L.L.P.**
100 Galleria Parkway NW
Suite 1750
Atlanta, Georgia 30339
(770) 933-9500